

Claims

1. A disk drive, comprising:

a disk drive cover including an top surface separated from an upper disk surface
5 of said disk drive by essentially a first gap;

a disk drive base including a bottom surface separated from a lower disk surface
of said disk drive by essentially a second gap; and

a disk containing each member of a disk surface collection comprising said upper
disk surface and said lower disk surface;

10 wherein all of said disk surface collection members rotate at an operating
rotational velocity;

wherein rotation of said disk surface collection member at said operating
rotational velocity creates a boundary layer thickness from said disk surface collection
members, for each of said disk surface collection members;

15 wherein said disk drive cover further includes a second top surface region formed
to facilitate the motion of an actuator arm between said disk cover and said upper disk
surface;

wherein said operating rotational velocity is at least 5400 revolutions per minute;

wherein each member of a gap collection is at most said boundary layer thickness;

20 wherein said gap collection is comprised of said first gap and said second gap;

wherein said disk drive has a height of at most 13 millimeters.

2. The apparatus of Claim 1,

wherein said disk drive base further includes a second bottom surface formed to
25 facilitate the motion of an actuator arm between said disk drive base and said lower disk
surface.

3. The apparatus of Claim 1,

wherein said operating rotational velocity is at least 7200 revolutions per minute.

4. The apparatus of Claim 3,

wherein said operating rotational velocity is at least 10,000 revolutions per minute.

5. The apparatus of Claim 4,

5 wherein said operating rotational velocity is at least 14,000 revolutions per minute.

6. The apparatus of Claim 1,

10 wherein said gap collection member is at most three quarters of said boundary layer thickness.

7. The apparatus of Claim 6,

wherein said gap collection member is at most one half of said boundary layer thickness.

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8. The apparatus of Claim 7,

wherein said gap collection member is at most one third of said boundary layer thickness.

20 9. The apparatus of Claim 1,

wherein said actuator positions essentially one read-write head accessing one member of said disk surface collection.

10. A media enclosure for a disk drive, comprising:

25 a disk drive cover including a top surface separated from an upper disk surface of a disk by essentially a first gap; and

a disk drive base including a bottom surface separated from a lower disk surface of said disk by essentially a second gap;

30 wherein each member of a disk surface collection rotates at an operating rotational velocity;

wherein said disk surface collection is comprised of said upper disk surface and said lower disk surface;

wherein rotation of said disk surface collection member at said operating rotational velocity creates a boundary layer thickness from said disk surface collection member, for each of said disk surface collection members;

wherein said media enclosure encloses said disk of said disk drive when assembled; wherein said disk includes each member of said disk surface collection;

wherein said disk drive has a height of at most 13 millimeters;

wherein each member of a gap collection is at most said boundary layer thickness;

10 and

wherein said gap collection is comprised of said first gap and said second gap.

11. The apparatus of Claim 10,

wherein said disk drive cover further includes a second top surface region formed to facilitate the motion of an actuator arm between said disk cover and said upper disk surface.

12. The apparatus of Claim 10,

wherein said disk drive base further includes a second bottom surface formed to facilitate the motion of an actuator arm between said disk drive base and said lower disk surface.

13. The apparatus of Claim 10,

wherein said operating rotational velocity is at least 5400 revolutions per minute.

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14. The apparatus of Claim 13,

wherein said operating rotational velocity is at least 7200 revolutions per minute.

15. The apparatus of Claim 14,

wherein said operating rotational velocity is at least 10,000 revolutions per minute.

16. The apparatus of Claim 15,
wherein said operating rotational velocity is at least 14,000 revolutions per
minute.

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17. The apparatus of Claim 10,
wherein said gap collection member is at most three quarters of said boundary
layer thickness.

10 18. The apparatus of Claim 17,
wherein said gap collection member is at most one half of said boundary layer
thickness.

15 19. The apparatus of Claim 18,
wherein said gap collection member is at most one third of said boundary layer
thickness.

20. A method of making a disk drive from said disk drive cover of Claim 10 and from
said disk drive base of Claim 10, comprising the steps of:
20 using said disk drive cover to assemble said disk drive; and
using said disk drive base to assemble said disk drive.

21. Said disk drive, as a product of the process of Claim 20.